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BERGER-BRAITHWAITE VIDEOTESTS
Proton 25" Monitor • Aiwa Beta Hi-Fi VCR
GE Color Camera • Aiwa Color Camera

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March 1984

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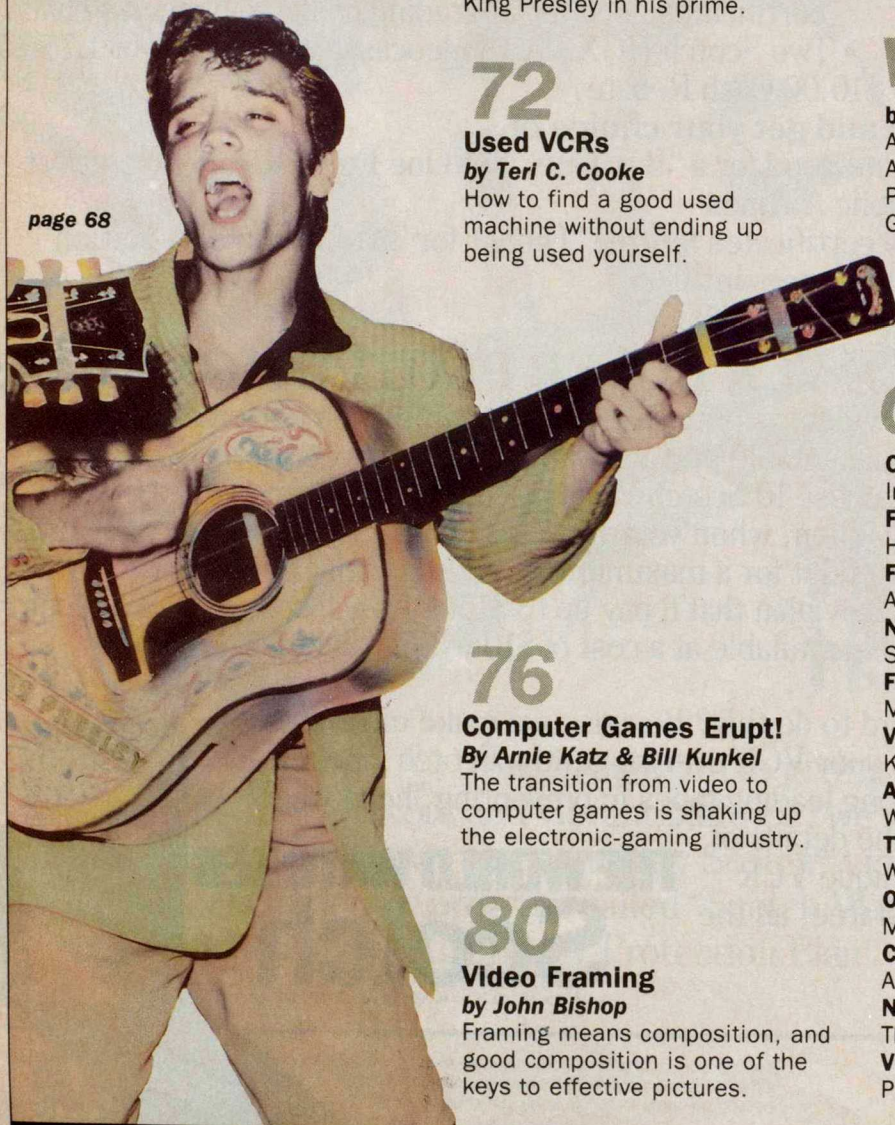
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Arcade Alley

A Critical Look at Video Games

by Bill Kunkel & Arnie Katz



We Still Want Action

Sure, there's a surge of interest in strategy games, computer adventures, and the like. But action games are very much where it's at, even in the home-computer age. Games that primarily call for quick reflexes and fast thinking are more popular among computer arcaders than all other categories combined.

Many videophiles who are moving up to computers from video-game systems wonder whether leaving behind the lower-powered fun machines also means bidding farewell to the thrill-a-second pace of electronic-action contests. Relax, fellow members of the blast brigade, there are plenty of arcade-style action games available for the popular makes of microcomputer.

The main difference between the typical video-game cartridge and the average action-oriented computer disk is that the latter frequently feature "action and..." That is, the huge memory capacity of personal computers lets the designers embellish the basic play-mechanic—just about the whole story in many action video games—with additional complications that force the player to use the brain as well as the joystick.

This installment of "Arcade Alley" will tiptoe past the video games—they'll get the spotlight next month—and concentrate on some of the slambang computer games that have been hogging screen time around here lately.

Buck Rogers, Planet of Zoom (Sega/Atari computers/Cartridge) crosses slalom skiing with a vertically scrolling shoot-'em-up. As Buck Rogers, the player guides a starfighter over the nearly featureless surface of the planet Zoom, moving the ship with the joystick. The idea is to pass between as many pairs of pylons as possible, destroying or avoiding enemy craft as seems best, until Rogers' ship gets through the fourth mini-phase and has the inevitable confrontation with the alien mothership. Destroying this craft sets the skill level ahead by one and restarts the four-phase cycle.



*'Buck Rogers' is good quick fun;
'Megamanla' has never looked better;
'Julce' is a high-tension game.*

Pushing the joystick forward speeds up the player's starfighter. The faster the ship goes, the more efficiently it uses fuel. Since power is in limited supply, home arcaders will want to race through the successive gauntlets as rapidly as possible. Unfortunately, once the game moves to the second skill level, failing to pass between the pairs of pylons carries additional danger. Missing a gate leaves the starfighter in position to be menaced by missiles

which the pylons fire toward the edges of the screen.

"Buck Rogers," based closely on the version Sega produced as a coin-op in 1982, isn't overly taxing mentally, but it can be rousing good fun when you're in a mood to see (and hear) things happen in a hurry.

Megamanla (Activision/Atari computers/Cartridge) shows how much the video-game and computer-game divisions overlap at times. This edition of "Megamanla" is visually enhanced, but otherwise is hardly different from the program Steve Cartwright produced for the 2600 in 1982. Activision believes that many computerists will be just as charmed by this futuristic nightmare in invasion-game form as video-gamers were. Fact is, "Megamanla" never looked better. It is now possible to clearly distinguish what each wave of attacking objects is supposed to represent now that the game is running on a system with enough resolution to present a radial tire that really looks like one.

Julce! (Tronix/Commodore 64/Disk) is one of the most charming things in the recent spate of pattern-shifting games—a program guaranteed to give game-loving C-64ers a real charge. The player uses the joystick to hop the on-screen hero, Edison, from block to block on the circuit board playfield. When Edison has connected every square, the current pulses across the screen—and Edison must begin again on a different, and more difficult, circuit board.

Thwarting this grand design are, most principally, the Nohms. These creatures enter the screen at the playfield's top edge and then hop around until they sail off the bottom. If a Nohm touches Edison, the supreme circuit-rider melts into a puddle right before the player's eyes. Other major dangers include the Killerwatt (a homing-target version of the Nohm) and Flash (who disconnects every circuit over which he passes).

The rules of this solo contest are de-

ceptively simple, but then, so are the regs for most of the classic action games. "Juice!" snaps and crackles like a high-tension wire.

Mr. Robot & His Robot Factory (Data Most/Atari computers/48K disk), Ron Rosen's climbing and jumping game, bears some resemblance to "Miner 2049er"—at least during the opening stages of play. But the 22 screens of action are sufficiently different from the earlier design to represent an enthralling new test of skill. The computerist maneuvers the cute Mr. Robot around a rainbow-hued playfield packed with such features as escalators, sliding poles, teleportation stations, bombs, and the dreaded alien fire. Contact with one of these incandescent nasties costs Mr. Robot one of the five lives with which the player begins the game. As in "Miner," the goal is for Mr. Robot to traverse the entire playfield, picking up all the available power pellets before moving on to the next one. This arrangement is not only visually pleasing, but greatly reduces the chance of walking your character off the edge of a cliff in a misguided effort to make sure that every inch of territory is covered.

The programming skill evidenced in the preparation of "Mr. Robot" is awesome. Ron Rosen has concocted nearly two dozen intriguing playfields and developed a simple-to-use system that lets the players themselves design new playfields when the old ones no longer prove stimulating. What this game lacks in stark originality, it more than makes up for with polish.

Centipede (Atarisoft/Apple II/48K disk) is a game that almost never fails to please, whether it's a coin-op in a family amusement center or a cartridge for one of the low-end video-game setups. In this case, the graphic limits of the Apple crimp the style but do not damage the essence of this invasion game set in a magic garden.

The Apple-gamer controls the gun at the bottom of the screen, moving it left or right to fire upward at multi-segment centipedes and other critters who are moving down the screen. "Centipede" also allows a small measure of vertical movement, which can be a real help in avoiding the pounce of the spider or even a collision with a centipede segment that gets past the player's barrage of fire.

One disappointment is that the game doesn't operate well with the TG Products trackball controller. This is a shame, for "Centipede" was originally designed for just such a command device. (Possibly a different make of trackball would be less sluggish, but it's unlikely.) In any case, this edition of "Centipede" is capable of keeping any dedicated bug-bopper happily patrolling for pests for hours, when played with a regular Apple-compatible joystick.



Computer Ease

The Human Interface

by Ivan Berger



A Computer We Can't Resist

How could we resist a computer with "video" in its name? But the Spectravideo SV-318 has a lot more to offer than just that. For \$299 it provides 16K of user-addressable RAM and another 16K of video/graphics RAM (expandable from that 32K to a 256K total), 32K of ROM (which holds a very powerful Microsoft color BASIC), both RF and video outputs, a built-in joystick, a unique cassette recorder, and four software programs.

When the SV-318 was announced last year, at \$299 without cassette recorder or software, it was a fantastic bargain. In today's market, that's no longer true, though the addition of the software and cassette deck do make it a good value. Where it really shines, though, is in expandability. Buy an add-on expansion module (one- and seven-slot versions are available) and you can add the rest of the RAM (only the first 32K fits within the keyboard housing), expand the ROM to 96K, add serial- and parallel-printer ports as well as a floppy-disk controller (CP/M-compatible—the SV-318 uses a Z-80 processor), expand the display from its 40-character maximum line to 80 characters, and install an internal modem. Spectravideo was also the first to announce support of the MSX software standard which, if enough manufacturers support it (and half of Japan seems about to), will mean software galore.

Not that there isn't plenty of software already. Spectravideo's own catalog lists 56 programs on tape, plug-in cartridges, and disk, not to mention those available elsewhere on CP/M (the disk format is the same as the Xerox 820 Type II, used by several computers) and perhaps soon on the MSX format as well (which will require an adapter). With an \$80 adapter, the 318 accepts Coleco game cartridges.

The "video" in the computer's name is justified. Its graphic system offers resolution of 256 by 192 pixels (picture elements) with up to 16 colors. That's enough for fairly detailed imaging. Not only that, but the graphics chip used



The Spectravideo SV-318 has power (256K of RAM, 96K of ROM with the optional SV-601, top) and games like "Super Cross Force" (bottom left) and "Astro Blast."

can support up to 32 "sprites"—program-defined shapes which can be moved about the screen under command of a Graphic Macro Language with 14 commands to move and color them. The BASIC also includes commands to build a sprite shape (as a string) and detect collisions between sprites (a must for game programming)—as well as 15 other commands to build and color other shapes.

The resolution is fine enough to draw reasonably smooth circles, which can be started anywhere on-screen. VPEEK and VPoke commands give you direct access to the video RAM for easier screen control. To really wring out these commands, borrow a teenager with a good visual imagination: exploring the graphics potential takes hours.

You can enter 52 graphics characters from the keyboard, using the letter keys and either of two graphics-shift keys.

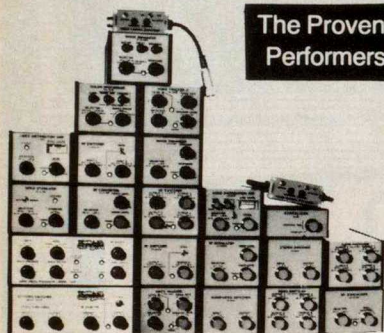
These characters can also be entered into a program as strings. They're intelligently grouped so that, for example, the four sides of a square are laid out as such, all using the same shift key.

Graphics control is further facilitated by the built-in joystick. As joysticks go, it isn't much (for many uses I preferred to pull the stick itself out and press on its surrounding pad), but it's still handy to have on tape when needed. For serious gaming, the SV-318 has two ports for Atari-compatible joysticks.

Most computers designed strictly for home use have only RF outputs for connection to a TV set's antenna terminals. This insures that every home will have a suitable output device for the computer—but drastically limits the image quality. The SV-318 therefore has direct video output for use with a monitor (or the monitor inputs on many of today's TVs), as well as an external RF

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modulator for output to a regular TV.

Good game facilities should include sound as well as graphics, and the SV-318 has them in spades—or rather in sharps and flats. The sound generator chip has 10-command Music Macro Language, plus a complex set of tonal registers. The Music Macro Language lets you call the note by name (A through G), sharp or flat it (using "+" and "-" signs), choose its length, octave (over an eight-octave range), tempo, and volume. You can even dot a note, just as you would in standard musical notation, to extend its length by 50 percent.

You can play up to three tones or noises at once, with independent control of each one's volume and "envelope" (rate of rise, sustain, and fall). Melodies can be defined as string variables; you can play several measures of rich organ-like multivoiced music with the command "PLAY A\$." Again, the sound can be fed to a TV set via the RF adapter or taken from the audio outputs to feed your sound or video system.

These facilities are also used by Spectravideo's own games. I had a chance to try three: "Armored Assault" (\$24.95, cassette), a complex dueling-tank game which could have used more complete instructions (my copy had none); "Super Cross Force," and "Alpha Blast" (space-invader-type games, at \$29.95 per cartridge). I liked the graphics a bit better in "Alpha Blast," but found "Super Cross Force" more fun to play.

The cassette recorder that comes with the unit is unique: it has two channels, one to save and load programs, the other for sound. None of the programs I tried used this, but you can record your own sounds via the built-in microphone, then program the SV-318 to start and stop the tape when needed. The cassette deck also is powered by the computer, so it doesn't need a separate power cord. (My sample, one of the early ones, had a flimsy plug, however.)

The SV-318 is more than just a games computer. Its BASIC has a full range of mathematical, string, file, and PRINT USING statements as well as many commands and functions of interest to those who write programs. For example, a MERGE command lets you merge a program on tape (or, I assume, disk) into the program currently in memory; BLOAD and BSAVE load and save machine-language or data files to or from any specified section of memory. Program lines can be renumbered (handy, when lines get crammed together), variable values can be SWAPPED (immensely convenient when sorting), and numbers can be converted to hex or octal values (though I found no way to convert them back). As in most Microsoft BASICs, the VARPTR com-

mand lets you see where variables are stored in memory, and the TRON and TROFF commands control a trace facility that shows which steps a program follows, and the order in which they run.

Not all home programmers will use these facilities. All, however, will appreciate the screen editor. Instead of correcting or changing program lines with special editing commands (as in Radio Shack's versions of Microsoft BASIC), you just move the cursor (using the joystick or its surrounding pad) to the point you wish to correct and make your edits directly using either the keyboard's insert and delete keys or a set of commands that will be familiar to users of other Microsoft-equipped machines. There's one difference: these functions require use of the CTRL (control) key.

The keyboard is unusually complete. In addition to CTRL, it has ESCape, a CAPS LOCK (with an indicator light), a clear-screen key, a STOP key, such special ASCII characters as [,], and five dual-function programmable function keys. In BASIC the functions assigned to these keys are displayed along the bottom of the screen, the alternate five functions showing up when you press the shift key. (There is also a "SELECT" key whose function was not explained in the prerelease instructions that I received.)

The keys themselves, though, are mediocre at best. I'm never enthusiastic about Chiclet-style keys, but I positively *disliked* these because they wobbled and did not always register when struck off-center. (On the other hand, a key-click in the audio and RF outputs let me know when the key did register—a useful touch.) I also found the keys a bit too widely spaced for comfort, the result of combining typewriter-key spacing (a good idea) with small keys (not so good); larger keys would have cured this problem, but exaggerated the wobble.

My sample was a preproduction one, so the keyboard may have been slightly improved since then. The same may be true of three other hardware problems I noted: the flimsy cassette connector, a power cord that was too easy to dislodge, and a tendency to overheat. Spectravideo says these problems have been corrected in production models.

The Spectravideo SV-318 is quite powerful and extremely versatile just as it comes from the box, and can be made more powerful and versatile—and, alas, expensive—with the expansion accessories and peripherals that have been announced and are now appearing. Give up a bit of that and you can find computers that are better bargains in price—but you can find worse too.

If you and that keyboard get along, and if the heat and connector problems are overcome in the production version, I would recommend the 318. 